**JOBSHEET 3**

**Pseudocode & Flowchart**



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1I

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Labs Activity

**Question! (Experiment 1)**

1. From experiment 1 above, modify the pseudocode by creating a new variable phi to store 3.14. And in the circumference and area calculation, replace 3.14 by using phi (use phi instead of 3.14 in the calculation).
2. Create the flowchart from the modified pseudocode at question 1!
3. Implements the modified pseudocode/flowchart into a program (source code)!

**Answer!**

**Algorithm:** Circle24

(input radius and calculate the circumference and area of the circle)

**Declaration:**

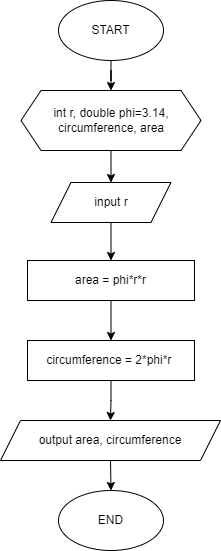
r : int

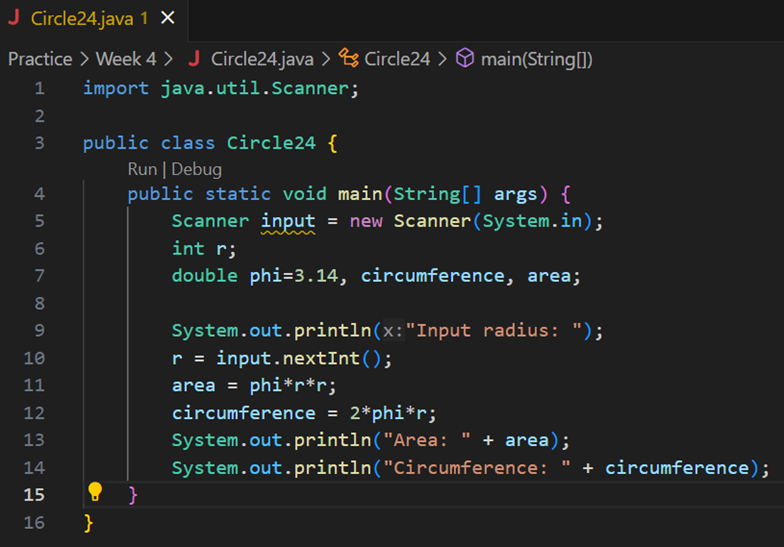
phi=3.14, circumference, area : double

**Description:**

1. Print “Input radius”
2. Read r
3. Area = phi\*r\*r
4. Circumference = 2\*phi\*r
5. Print area
6. Print circumference

2.





**Question! (Experiment 2)**

1. Create a pseudocode based on the above flowchart and modify it by getting the salary and salaryDeduction from the user input!
2. Implement the modified pseudocode in the above question, into a java program!

**Answer!**

**Algorithm:** Salary24

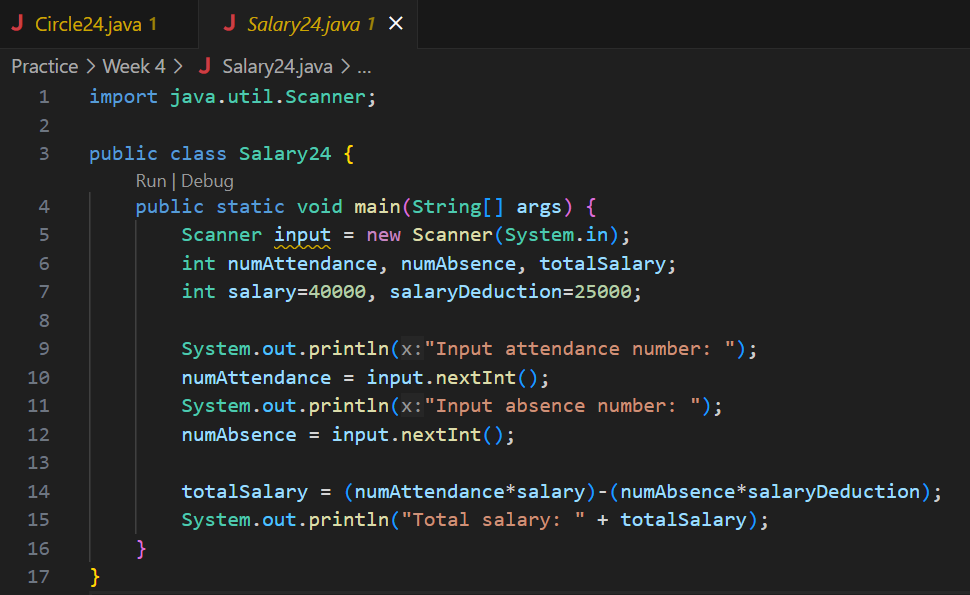
(input attendance number, absence number and calculate the total salary)

**Declaration:**

numAttendance, numAbsence, totalSalary, salary=40000, salaryDeduction=25000 : int

**Description:**

1. Print “Input attendance number”
2. Read numAttendance
3. Print “Input absence number”
4. Read numAbsence
5. Total salary=(numAttendance\*salary)-(numAbsence\*salaryDeduction)
6. Print “Total salary“
7. Print totalSalary



**Question! (Experiment 3)**

1. Modify the pseudocode and flowchart above by adding user input for **bookBrand** and **pageCount**, then change the **discount** to get the user input as well!
2. Implement the changes in a program!

**Answer!**

**Algorithm:** NotebooksPurchasePriceStudent24

(input book brand, page count, price, quantity and calculate the discount and total price)

**Declaration:**

bookBrand : String

pageCount, price, quantity: int

discount=0.1, totalPrice, purchasePrice, totalDiscount : double

**Description:**

1. print “Input book brand”
2. read bookBrand
3. print “Input page count”
4. read pageCount
5. print “Input price”
6. read price
7. print “Input quantity”
8. read quantity
9. totalPrice = price \* quantity
10. totalDiscount=totalPrice\*discount
11. purchasePrice= totalPrice – totalDiscount
12. print “The total discount is ”
13. print totalDiscount
14. print "The Purchase Price is ”
15. print purchasePrice
16. x = 10, y = 12

**Assignment**

1. Do assignments according to your group's final project topic!
2. Identify input, output, processes based on the scope of each group's final project topic. The processes identified are limited to processes that use arithmetic operators.
3. Identify variables and data types based on input, output, and process according to project topic based on 1a.
4. Implement questions a and b into Java program code so that it becomes a program that utilizes variables, data types, data input, arithmetic processes to display the expected output.

**Answer!**

1. a. Input = name, category, workHours, salaryPerHour, overtime

Output = basicSalary, bonus, salary

Process = input name -> input category -> input workHours -> input salaryPerHour -> input overtime -> calculate basicSalary -> calculate bonus -> calculate salary

b. String name

int category

int workHours

int salaryPerHour

int overtime

int tip = 20000

int basicSalary

int bonus

int salary

1. 